

## RADIO 'KNIFE' CUTS BLOOD OUT OF MOUTH SURGERY

**A**N amazing radio "knife" lets dentists carve away diseased gums without blood or stitches later.

The knife slices with concentrated high-frequency radio waves forced through an electrode wand, explains Dr. Jeffrey Sherman, a New York dentist who's written a book on the procedure. The waves cauterize as they cut, so there's no bleeding.

"It's pressureless," he says. "When you're using a scalpel, you have to really press down. Here, a radio signal does the cutting — all you do is direct the signal."

The knife was originally developed for general medicine.

But because of its advantages in cutting soft



Waves cauterize as they cut

tissue, many dentists use it for gum surgery, removing abscesses, treating periodontal disease and damaged nerves, says Sherman.

And since the radio knife costs \$1,000 compared to \$40,000 for laser equipment, it's much cheaper than laser surgery.

"And it's silent," he says. "A lot of my patients don't even know I'm doing it until afterward."

August 18, 1992/GLOBE

## NEW 'PULSER' SIGHTINGS

"DONUTS-ON-A-ROPE" contrails produced by an unknown high-speed, high-altitude aircraft have been reported throughout the U.S. and Europe, suggesting the classified "pulser" is no longer confined to a test range (AW&ST May 11, p. 62). In late January, a similar contrail—described as a "coiled spring"—was seen over Scotland behind a very fast aircraft flying east to west. The distinctive contrails have been spotted during daylight hours over Portland, Ore.; Washington Dulles International Airport, Va.; Denver, Colo.; and Edwards AFB, Calif. Observers said the main plume appeared to be connected directly to the aircraft, which was so high its shape could not be determined. Typical jet contrails become visible at some distance behind an aircraft as moisture in the exhaust condenses. The pulser's rings or "donuts" appeared to grow out of and encircle the plume a few seconds later. Propulsion experts have suggested the "pulser" may be powered by a ducted rocket, or a hybrid of a pulse detonation engine.

AVIATION WEEK & SPACE TECHNOLOGY/July 6, 1992 13

## Earth must speak as one if (when) E.T. phones in

**UNITED NATIONS (AP)** — After more than 30 years of listening to radio waves from outer space for greetings from an alien civilization, scientists are planning to turn to the United Nations for guidance on how to answer.

Dozens of times, scientists have picked up radio waves matching the expected signature of a message from space. But these have not been confirmed as genuine contacts because they were fleeting and unverifiable.

With new NASA equipment joining the search next month, radio astronomers believe they will ultimately be able to confirm that a future transmission is a sign from a distant planet.

Radio astronomers and engineers involved in the Search for Extraterrestrial Intelligence, commonly called SETI, this month began consulting with their colleagues in all scientific disciplines for suggestions on what the reply to aliens should be.

After sifting and winnowing their own ideas, the scientists plan to seek a decision from the U.N. General Assembly's Committee on the Peaceful Uses of Outer Space.

"The basic thinking all along is that this decision ought to be put into the hands of the United Nations," said John Billingham, head of the SETI project at NASA's Ames Research Center in Mountain View, Calif.

In a "white paper" now being circulated to space scientists worldwide, one key principle is that Earth should reply with one voice, on behalf of all humanity, rather than

individual states sending a response, according to scientists familiar with the document.

"We have always considered this not just a U.S. question, but an international question," Billingham said. "Everybody, in some way or another, should be involved in it."

The nature of the reply may well depend on the complexity of the transmission received, Billingham said. That transmission could range from simple radio or radar "noise" from another world to a purposeful message greeting other planets.

Billingham and some of his colleagues think the world may need a reply sooner than most people might think.

Receivers have picked up signs that bore all the earmarks of an intelligent signal from space about 60 times — except they were brief and could not be reacquired and confirmed, said Frank Drake, the man who in 1960 launched Project Ozma, the first SETI search.

He still wonders if the receptions were simply a glitch in the equipment, or if they actually detected a transient signal from space.

Drake thinks there is no need to rush a reply back to the stars.

"You would build a large enough (radio telescope) system to capture those communications and spend years, perhaps, learning what that civilization is all about. By then, the answer would be obvious," Drake said.

"The one thing we could put in our reply is that we know of their existence," he said.

BY JOHN F. SCHUESSLER  
P. O. BOX 58485  
HOUSTON, TEXAS 77258-8485

# Mystery growth formed in outer

By **STEPHEN STRAUSS**  
Toronto Globe and Mail

Is it animal, vegetable or mineral? Scientists at the National Aeronautics and Space Administration are scratching their heads over how a tiny patch of something managed to grow even though it was exposed to

the harshness of outer space for nearly six years.

The mystery growth has been found in a toothpick-sized region on what is known as the Long Duration Exposure Facility. The bus-sized LDEF was launched in 1984 and was retrieved by a space shuttle in January 1990, a few weeks before its decaying orbit would have sent it

crashing back to Earth.

The can-shaped satellite was designed to conduct experiments to measure how heat, cold, radiation, vacuum and other inclement conditions associated with space affect a variety of materials. Such information is considered vital by engineers trying to design parts for a space station that is supposed to have a

## space baffles NASA scientists

working life of 30 years.

NASA materials scientists in Huntsville, Ala., discovered the growth while examining a brownish discoloration 0.08 inches wide by 2.8 inches long on a Teflon-covered section of the satellite.

Using an electron scanning microscope they saw tiny, stalactitelike structures on the Teflon. Tiny means

the longest was about seven microns in size. That's about one-tenth the width of a human hair.

At first NASA scientists thought the growth might be a fungus or a mold that had contaminated the LDEF upon its return. However, their initial biological tests were negative.

Now the researchers are unsure

exactly what they have. It is possible, however, that gases could have leaked from the satellite and, in the absence of gravity and through an unlikely chemistry, produced a physical structure never before seen on Earth.

"We've never had stuff returned

See GROWTH on Page 9A.

## Growth

Continued from Page 1A.

from space that had been out there for six years," said NASA materials scientist Jim Zwiener of the confusion surrounding the growth.

Whatever was formed was strong enough to withstand both high ultraviolet radiation and the extremely corrosive power of atomic oxygen.

One extra problem for the physicists is that they have been unable to determine its exact chemical composition because so little of the mysterious material exists.

NASA scientists are so unsure of what they have found that they've published an account of the material in a recent newsletter devoted to LDEF results and are asking scientists around the world to suggest what substance X could be. No possibilities are being discounted.

Asked whether the material might be a life form not based on DNA, Zwiener responded: "That is why I was scared to death to publish this. I thought, 'God, as soon as we publish this stuff, someone is going to suggest something like that.' I hope it's more mundane than that."

9A

★★★★

Houston Chronicle

Wednesday, Sept. 9, 1992

## Close encounter with the UFO

By A Staff Reporter

THE unidentified flying object (UFO), residents of Dubai and Sharjah reportedly sighted last week, has been seen at close range by Sheikh Ahmed bin Saeed Al Maktoum, Chairman of the Dubai Civil Aviation Department and Emirates airline. Sheikh Ahmed told *Gulf News* yesterday that he encountered the UFO while he was flying his plane on a private route during

an exercise. "I was about three to four kilometres away from it."

He described the UFO as "a shining mixture of yellow and red" that moved swiftly.

"It was a very fascinating object which is entirely different from the picture published in the newspapers. The photograph was taken from the ground while I saw it at close range. I decided to fly closer to get a better view but after two minutes, it disappeared."

He said that he tried to contact the Dubai International Airport control tower to report what he saw but that there was no response. "I called up three times and everytime the lines seem to have been disconnected."

On Monday night last week, the operations room of Dubai Police was jammed with calls from residents of Al Ghasais and Mezzher, who claimed to have seen a UFO.

Two days later, residents of Sharjah reported making a similar sighting. A photo-journalist of the Arabic daily *Khaleej* claimed to have taken a photograph of it.



Ahmed...fascinating object

GULF NEWS (MANAMA) 12-24-89